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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XA236]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Crowley Kotzebue Dock Upgrade Project in Kotzebue, Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Crowley Fuels, LLC to incidentally harass, by Level B harassment only, marine mammals during construction activities associated with the Crowley Kotzebue Dock Upgrade in Kotzebue, Alaska.

DATES: This Authorization is effective from July 6, 2020 through July 5, 2021.

FOR FURTHER INFORMATION CONTACT: Leah Davis, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the “take” of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed incidental take authorization may be provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other “means of effecting the least practicable adverse impact” on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as “mitigation”); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On January 13, 2020, NMFS received a request from Crowley Fuels, LLC (Crowley) for an IHA to take marine mammals incidental to pile driving activities at the Crowley Kotzebue Dock. The application was deemed adequate and complete on April 9, 2020. Crowley's request is for take of a small number of nine species of marine mammals, by Level B harassment only. Neither Crowley nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Activity

Crowley is proposing to upgrade their existing sheet pile bulkhead dock for vessel-based fuel and cargo distribution in Kotzebue, Alaska, as the existing bulkhead at the dock is corroding and has reached the end of its useful service life. Crowley is proposing to construct a new dock wall on the water ward side of the existing dock. Vibratory pile driving would introduce underwater sounds that may result in take, by Level B harassment, of marine mammals in Kotzebue Sound. Crowley is not proposing to conduct any demolition of the current facility.

Crowley's Kotzebue Dock provides berthing for the company's bulk fueling operations. The dock also provides essential access for community barges, cargo-loading, transloading, subsistence harvest, and other community events; all of which are necessary operations to the City of Kotzebue, its residents, and adjacent villages supported by Kotzebue's connections to marine-based transportation.

A detailed description of the planned project is provided in the **Federal Register** notice for the proposed IHA (85 FR 23766; April 29, 2020). Since that time, no changes have been made to the planned construction activities (other than schedule

changes, noted below). Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to Crowley was published in the **Federal Register** on April 29, 2020 (85 FR 23766). That notice described, in detail, Crowley's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission). Additionally, NMFS received three recommendations from an Arctic Peer Review Panel (PRP) convened by NMFS that were beyond the scope of the peer review process (please see the *Monitoring Plan Peer Review* section, below), and have therefore been considered as equivalent to public comments. NMFS also received a letter from the general public. All substantive recommendations are responded to here. The comments and recommendations have been posted online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities>. Please see the Commission's letter and the PRP report for full details regarding the recommendations and supporting rationale.

Comment 1: The Commission and the PRP recommended that NMFS reduce the number of authorized Level B harassment takes of beluga whale given more recent survey information (Frost and Lowry 1990, Alaska Beluga Whale Committee (ABWC) 2008) than was referenced in the proposed authorization (Frost *et al.*, 1983). The panel noted that the number of beluga whales in Kotzebue Sound may be less than 50 animals per year, as they have declined since the mid-1980s (Frost and Lowry 1990; ABWC

2008). The panel suggested that 200 Level B harassment takes of beluga whales may be more appropriate, but recommended that Crowley consult further with NMFS. The Commission recommended that NMFS reduce the number of Level B harassment takes from 100 to 51 on each project day based on the Alaska Department of Fish and Game's (ADFG) 1987 survey (ABWC 2008).

Response: NMFS agrees that this more-recent data suggests that the proposed number of Level B harassment takes of beluga whale is likely an overestimate. Given that each beluga whale potentially present in the project area has the potential to be taken by Level B harassment each project day, NMFS expects that 200 Level B harassment takes may not be sufficient. Therefore, as suggested by the Commission, NMFS has estimated that 51 Level B harassment takes of beluga whale may occur on each of the 87 project days, based on the ADFG 1987 aerial surveys. Therefore, NMFS has authorized a total of 4,437 Level B harassment takes of beluga whale.

Comment 2: The Commission recommended that NMFS increase the shut-down zone from 10 to 15 meters (m) for high-frequency (HF) cetaceans during vibratory installation of sheet piles.

Response: NMFS does not concur and does not accept the Commission's recommendation. The largest Level A harassment zone for HF cetaceans is 13 m, and NMFS has included a 10 m shutdown zone for all activities, as included in the proposed authorization. Given the duration component associated with actual occurrence of Level A harassment take, a 10 m shutdown zone is sufficient to prevent the potential for permanent threshold shift (PTS), *i.e.*, Level A harassment take, in an estimated 13 m Level A harassment zone.

Comment 3: The Commission recommended that NMFS require Crowley to position its southernmost Protected Species Observer (PSO) farther north along Beach Trail, suggesting that this location minimizes the gap between the observers and maximizes the extent of the Level B harassment zone(s) observed. Additionally, the Commission recommends that Crowley position the PSOs on elevated platforms, if feasible.

Response: NMFS concurs with the recommendation to position PSOs on elevated platforms, and is requiring Crowley to provide elevated monitoring locations for all PSOs. However, NMFS did not adopt the Commission's recommended location for Crowley's southernmost PSO. The southernmost PSO will be stationed on a raised platform on the seawall 'bump-out' in front of the Nullagvik hotel. Given the shoreline configuration, NMFS expects that the sound is unlikely to propagate along the shoreline by the Beach Trail, and therefore expects that the Nullagvik hotel is a more appropriate location for the southernmost PSO. NMFS has included the required number and locations of PSOs in the final authorization and in this notice.

Comment 4: The Commission recommended that NMFS include all of the peer review panel's recommendations in the **Federal Register** notice of issuance and specify which recommendations were implemented, as well as the rationale for those that were not implemented.

Response: NMFS concurs with the recommendation and has included a thorough explanation of the peer review panel's recommendations in the *Monitoring Plan Peer Review* section of this notice. This discussion outlines the recommendations as well as

whether, and if so, how the recommendations will be implemented. The discussion also includes rationale for why some recommendations were not implemented.

Comment 5: The Commission recommended that NMFS revise its standard condition for ceasing in-water heavy machinery activities to include, as examples, movement of the barge to the pile location, positioning of the pile on the substrate, use of barge-mounted excavators, and dredging in all draft and final incidental take authorizations involving pile driving and removal.

Response: NMFS does not adopt this recommendation as stated. The examples are simply intended to serve as examples. We will consider revising these examples on a case-specific basis.

Comment 6: The Commission recommended that NMFS include in the final authorization the requirement that Crowley conduct pile-driving activities during daylight hours only.

Response: NMFS does not agree that it is necessary to stipulate that the activity may only occur during daylight hours and does not adopt the recommendation. As noted in the **Federal Register** notice for the proposed authorization (85 FR 23766; April 29, 2020), Crowley does plan to conduct pile driving during daylight hours only. While Crowley has no intention of conducting pile driving activities at night, it is unnecessary to preclude such activity should the need arise (*e.g.*, on an emergency basis or to complete driving of a pile begun during daylight hours, should the construction operator deem it necessary to do so).

Comment 7: The Commission recommended that NMFS ensure that Crowley keeps a running tally of the total takes, based on observed and extrapolated takes, for Level B harassment consistent with condition 4(f) of the final authorization.

Response: We agree that Crowley must ensure they do not exceed authorized takes but do not concur with the recommendation. NMFS is not responsible for ensuring that Crowley does not operate in violation of an issued IHA.

Comment 8: The Commission recommended that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated **Federal Register** notice process. If NMFS continues to propose to issue renewals, the Commission recommends that it (1) stipulate that a renewal is a one-time opportunity (a) in all **Federal Register** notices requesting comments on the possibility of a renewal, (b) on its webpage detailing the renewal process, and (c) in all draft and final authorizations that include a term and condition for a renewal and, (2) if NMFS declines to adopt this recommendation, explain fully its rationale for not doing so.

Response: NMFS concurs with the recommendation to stipulate that a renewal is a one-time opportunity and has done so in the issued IHA. However, NMFS does not agree with the remainder of the Commission's recommendations on this topic and, therefore, does not adopt those recommendations. NMFS will provide a detailed explanation of its decision within 120 days, as required by section 202(d) of the MMPA.

Comment 10: The PRP recommended that Crowley revise their application to clarify the metrics being used to estimate take for each species.

Response: NMFS clearly describes the methodology for estimating take for each species in this notice. Therefore, NMFS did not require Crowley to update their application.

Comment 11: The PRP recommended that Crowley consider deploying a sound attenuation device to minimize the potential for takes by Level B harassment and reduce the uncertainty in takes for distances exceeding the PSOs' visible ranges.

Response: The majority of the piles that Crowley will install are sheet piles. Effectively implementing sound attenuation for sheet piles is difficult, and Crowley does not expect that they would be able to achieve effective attenuation for these piles. Additionally, Crowley is conducting vibratory pile driving and removal only (no impact pile driving), therefore, the calculated Level A harassment isopleths are already very small (<14 m) and will be easy for PSOs to observe. Therefore, NMFS is not requiring Crowley to use a sound attenuation device.

Changes from the Proposed IHA to Final IHA

Crowley has pushed back their start date to July 6, 2020, rather than June 1, 2020 as included in the proposed authorization. Because of Crowley's delayed start, construction has potential to extend through June 2021. Therefore, NMFS has not reduced the take calculation from what was proposed (including higher take estimates for ringed and bearded seals the month of June when more seals are expected to be present). However, NMFS corrected an error in the number of Level B harassment takes of bearded seals in the month of June, which resulted in a corrected total of 1,115 Level B harassment takes of bearded seal. As discussed in the comment responses above, the

daily take estimate for beluga whales was reduced from 100 to 51 whales per day on the basis of newer information, for a total of 4,437 Level B harassment takes.

NMFS has modified Crowley’s monitoring requirements based, in part, on the peer review of the monitoring plan. See “**Monitoring**,” later in this document for full details. Based on the peer review panel’s report, PSO #3 will be stationed on a raised platform on the seawall “bump-out” in front of the Nullagvik Hotel, and PSOs will record visibility conditions at 30 minute intervals. Separate from the peer review report, PSO #2 has been relocated also due to the applicant’s inability to gain property access. PSO #2 is now located on the Goodwin property, approximately 2 nautical miles northeast of the project site. Crowley will implement sound source verification (SSV) and passive acoustic monitoring (PAM) for marine mammals, as recommended by the peer review panel. Please refer to the *Monitoring Plan Peer Review* section for additional details regarding the panel’s recommendations and whether or how Crowley will implement them.

NMFS also made a correction to the reporting measure concerning dead and injured marine mammals. The correction clarifies that Crowley must only cease activities if the death or injury was clearly caused by the specified activity.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS’s Stock Assessment Reports (SARs;

<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal->

stock-assessments) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS's website

(<https://www.fisheries.noaa.gov/find-species>).

Table 1 lists all species or stocks for which take is expected and authorized for this action, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2019). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS's stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS's U.S. 2018 SARs and draft 2019 SARs (*e.g.*, Muto *et al.*, 2019). All values presented in Table 1 are the most recent available at the time of publication and are available in the 2018 SARs (Muto *et al.*, 2019a, Carretta *et al.*, 2019a) and draft 2019 SARs (Muto *et al.*, 2019b, Carretta *et*

al., 2019b) (available online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports>).

Table 1-- Species for Which Take is Reasonably Likely to Occur

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) ¹	Stock abundance (CV, N _{min} , most recent abundance survey) ²	PBR	Annual M/SI ³
Order Cetartiodactyla – Cetacea – Superfamily Mysticeti (baleen whales)						
Family Eschrichtiidae						
Gray whale	<i>Eschrichtius robustus</i>	Eastern North Pacific	- / - ; N	26,960 (0.05, 25,849, 2016)	801	139
Family Balaenopteridae (rorquals)						
Minke whale	<i>Balaenoptera acutorostrata</i>	Alaska	- / - ; N	NA (see SAR, NA, see SAR)	UND	0
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Beluga whale	<i>Delphinapterus leucas</i>	Beaufort Sea	- / - ; N	39,258 (0.229, NA, 1992)	UND	139
		Eastern Chukchi Sea	- / - ; N	20,752 (0.7, 12,194, 2012)	244	67
Killer whale	<i>Orcinus orca</i>	Gulf of Alaska, Aleutian Islands, Bering Sea Transient	- / - ; N	587 c (NA, 587, 2012)	5.87	1
Family Phocoenidae (porpoises)						
Harbor porpoise	<i>Phocoena phocoena</i>	Bering Sea	- / - ; Y	48,215 (0.223, NA, 1999)	UND	0.2
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Bearded seal	<i>Erignathus barbatus</i>	Beringia	T / D ; Y	see SAR (see SAR, see SAR, 2013)	See SAR	557
Ringed seal	<i>Phoca (pusa) hispida</i>	Alaska	T / D ; Y	see SAR (see SAR, see SAR, 2013)	5,100	863
Spotted seal	<i>Phoca largha</i>	Alaska	- / - ; N	461,625 (see SAR, 423,237, 2013)	12,697	329
Ribbon seal	<i>Histiophoca fasciata</i>	Alaska	- / - ; N	184,697 (see SAR, 163,086, 2013)	9,785	3.9

1 - Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

2- NMFS marine mammal stock assessment reports online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance.

3 - These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (e.g., commercial fisheries, ship strike). Annual mortality/serious injury (M/SI) often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

As indicated above, all nine species (with 10 managed stocks) in Table 1 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur, and we have authorized it. All species that could potentially occur in the project area are included in Table 2 of the IHA application. While Eastern North Pacific Alaska Resident Stock killer whales, bowhead whales, fin whales, humpback whales, and narwhals could potentially occur in the area, the spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here.

NMFS was unable to locate evidence supporting the presence of resident killer whales within Kotzebue Sound. Based on evidence of predation on marine mammals, NMFS expects killer whales within the Sound to be from transient stocks. Additionally, bowhead whales (Braham *et al.*, 1984), humpback whales, and fin whales (Clarke *et al.*, 2013) do not typically occur in the nearshore area within Kotzebue Sound. As noted in the *Specific Geographic Region* section of our notice of proposed IHA, Kotzebue Sound is relatively shallow, further reducing the likelihood for these species to occur. The narwhal occurs in Canadian waters and occasionally in the Alaskan Beaufort Sea and the Chukchi Sea, but it is considered extralimital in U.S. waters and is not expected to be encountered. There are scattered records of narwhal in Alaskan waters, including reports by subsistence hunters (Reeves *et al.*, 2002); however, we do not expect narwhals to occur in Kotzebue Sound during the project period.

In addition, the polar bear (*Ursus maritimus*) and Pacific walrus (*Odobenus rosmarus divergens*) may occur in the project area. However, both species are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

A detailed description of the species likely to be affected by Crowley's project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (85 FR 23766; April 29, 2020); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (<https://www.fisheries.noaa.gov/find-species>) for generalized species accounts.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from Crowley's construction activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the survey area. The notice of proposed IHA (85 FR 23766; April 29, 2020) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from Crowley's construction activities on marine mammals and their habitat. That information and analysis is incorporated by reference and is not repeated here; please refer to the notice of proposed IHA (85 FR 23766; April 29, 2020).

Estimated Take

This section provides an estimate of the number of incidental takes authorized through this IHA, which will inform both NMFS' consideration of "small numbers" and the negligible impact determination. Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal

stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level B harassment only, in the form of disruption of behavioral patterns and/or temporary threshold shift (TTS) for individual marine mammals resulting from exposure to acoustic sources. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.*, shutdown zones) discussed in detail below in the **Mitigation Measures** section, Level A harassment is neither anticipated nor authorized.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these basic factors can contribute to a basic calculation to provide an initial prediction of takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.*, previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.*, 2007, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 decibel (dB) re 1 μ Pa rms (microPascal, root mean square) for continuous (*e.g.*, vibratory pile-driving) and above 160 dB re 1 μ Pa rms for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources.

Crowley's project includes the use of continuous (vibratory pile driving) sources only, and therefore the 120dB re 1 μ Pa rms is applicable.

Level A harassment for non-explosive sources - NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A

harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). Crowley's project includes the use of non-impulsive (vibratory pile driving) sources.

These thresholds are provided in Table 2. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2018 Technical Guidance, which may be accessed at <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance>.

Table 2 -- Thresholds Identifying the Onset of Permanent Threshold Shift

Hearing Group	PTS Onset Acoustic Thresholds* (Received Level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	<i>Cell 1</i> $L_{pk,flat}$: 219 dB $L_{E,LF,24h}$: 183 dB	<i>Cell 2</i> $L_{E,LF,24h}$: 199 dB
Mid-Frequency (MF) Cetaceans	<i>Cell 3</i> $L_{pk,flat}$: 230 dB $L_{E,MF,24h}$: 185 dB	<i>Cell 4</i> $L_{E,MF,24h}$: 198 dB
High-Frequency (HF) Cetaceans	<i>Cell 5</i> $L_{pk,flat}$: 202 dB $L_{E,HF,24h}$: 155 dB	<i>Cell 6</i> $L_{E,HF,24h}$: 173 dB
Phocid Pinnipeds (PW) (Underwater)	<i>Cell 7</i> $L_{pk,flat}$: 218 dB $L_{E,PW,24h}$: 185 dB	<i>Cell 8</i> $L_{E,PW,24h}$: 201 dB
Otariid Pinnipeds (OW) (Underwater)	<i>Cell 9</i> $L_{pk,flat}$: 232 dB $L_{E,OW,24h}$: 203 dB	<i>Cell 10</i> $L_{E,OW,24h}$: 219 dB

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 μPa , and cumulative sound exposure level (L_E) has a reference value of 1 $\mu\text{Pa}^2\text{s}$. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript “flat” is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.*, varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.*, vibratory pile driving and removal). The maximum (underwater) area ensonified above the thresholds for behavioral harassment referenced above is 52.5 km² (20.3 mi²), and the calculated distance to the farthest behavioral harassment isopleth is approximately 5.2 kilometer (km) (2.0 miles (mi)).

The project includes vibratory pile installation and removal. Source levels for these activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the literature. Source levels for each pile size and activity are presented in Table 3. Source levels for vibratory installation and removal of piles of the same diameter are assumed to be the same.

Table 3 -- Sound Source Levels for Pile Driving

Pile Size	Source Level (dB RMS SPL at 10m)	Literature Source
Template Piles (18-inch pipe piles) ^a	158.0	Pritchard Lake Pumping Plant, 2014 ^b
<i>Alternate Template Piles (14-inch H piles)^a</i>	158.8	URS Corporation, 2007 ^c
Anchor Piles (14-inch H piles) ^b	158.8	URS Corporation, 2007 ^c
Sheet Piles	160.7	PND, 2016

^a We have conservatively conducted the analysis with the maximum potential pile sizes that Crowley may choose to use.

^b Source level is the average of three 18-inch pipe piles installed at Pritchard Lake Pumping Plant. Data originally provided by Illingworth and Rodkin, Inc. and accessed in Caltrans, 2005.

^c Port of Anchorage Test Pile Driving Program. Accessed in Caltrans, 2015. The applicant averaged the vibratory installation levels from Table I.4-9, normalized to a consistent 10-meter distance. The applicant rejected any source levels more than one standard deviation from the average (Piles 2 and 12 Down).

Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$$TL = B * \text{Log}_{10} (R1/R2),$$

where

TL = transmission loss in dB

B = transmission loss coefficient

R1 = the distance of the modeled SPL from the driven pile, and

R2 = the distance from the driven pile of the initial measurement

Absent site-specific acoustical monitoring with differing measured transmission loss, a practical spreading value of 15 is used as the transmission loss coefficient in the above formula. Site-specific transmission loss data for Crowley's Kotzebue dock are not

available; therefore, the default coefficient of 15 is used to determine the distances to the Level A and Level B harassment thresholds.

When the NMFS Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, we developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimate of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate. For stationary sources such as pile driving, NMFS User Spreadsheet predicts the distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would incur PTS. Inputs used in the User Spreadsheet, and the resulting isopleths are reported below.

Table 4 -- User Spreadsheet Input Parameters Used for Calculating Level A Harassment Isopleths

	Template Piles (18-in Pipe Pile)	Alternate Template Piles (14-in H-piles)	Anchor Piles (14-in H-piles)	Sheet Piles
Source Level (RMS SPL)	158	158.8	158.8	160.7
Number of Piles within 24-h Period	10	10	10	9

Duration to Drive a Single Pile (minutes)	10	10	10	10
Propagation (xLogR)	15	15	15	15
Distance From Source Level Measurement (m)	10	10	10	10

Note: All calculations were completed in User Spreadsheet tab A.1: Vibratory Pile Driving with a weighting factor adjustment of 2.5kHz.

Table 5 -- Calculated Distances to Level A and Level B Harassment Isopleths.

Activity	Level A Harassment Zone (m)					Level B Harassment Zone (m) ^a
	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid Pinnipeds	Otariid Pinnipeds	
Template Piles (18-in Pipe Pile)	6	1	9	4	<1	3415
<i>Alternate Template Piles (14-in H-piles)</i>	7	1	10	4	<1	3861
Anchor Piles (14-in H-piles)	7	1	10	4	<1	3861
Sheet Piles	9	1	13	5	<1	5168

^a All Level B harassment zones were calculated using practical spreading (15logR) and a 120dB re 1 µPa rms threshold.

Table 6 -- Estimated Area Ensonified Above the Level B Harassment Take Threshold, and Estimated Days of Construction for Each Activity

Pile Size	Estimated Area Ensonified Above Level B Harassment Take Threshold (km ²)	Estimated Duration (days)
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Template Piles (18-in Pipe Pile)	24.8	37 ^a
Alternate Template Piles (14-in H-piles)	32.1	37 ^a
Anchor Piles (14-in H-piles)	32.1	2
Sheet Piles	52.5	48
All Activities		87

^a Includes both installation and removal.

Note: The estimated days of construction for each activity include a 10 percent contingency period to account for potential construction delays.

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. We describe how the information provided above is brought together to produce a quantitative take estimate.

Gray Whale

Gray whales were reported as present and feeding (sometimes in large numbers) in Kotzebue Sound, and a gray whale was harvested by whale hunters at Sisualiq in 1980 (Frost *et al.*, 1983). Additionally, between 2010 and 2019, there were five reports of gray whale strandings within inner Kotzebue Sound, including one in Hotham Inlet. An additional unidentified large whale was reported stranded south of Cape Blossom in 2018 (Savage, pers. comm. 2019). NMFS was unable to locate data describing frequency of gray whale occurrence, group size, or density within the project area.

Crowley plans to construct 14 cells in the planned dock, and construction of each is expected to require approximately one week; however, NMFS estimates that construction of all cells will last 15 weeks to account for potential delays or other unforeseen circumstances. NMFS expects that a gray whale or group of gray whales may enter the project area periodically throughout the duration of the construction period, averaging one gray whale per week. Therefore, given the limited information in the

project area to otherwise inform a take estimate, NMFS has authorized 15 Level B harassment takes of gray whale.

The largest Level A harassment zone for low-frequency cetaceans extends 8.5 m from the source during vibratory pile driving of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, especially in combination with the already low frequency of gray whales entering the area, is expected to eliminate the potential for Level A harassment take of gray whale. Therefore, Crowley did not request Level A harassment takes of gray whale, nor has NMFS authorized any.

Minke Whale

Minke whales were reported as sometimes present in Kotzebue Sound during the summer months and two individuals beached in the mouth of the Buckland River in autumn during the late 1970s (Frost *et al.*, 1983). NMFS was unable to locate additional, more recent data describing frequency of minke whale occurrence, group size, or density within the project area.

Crowley plans to construct 14 cells in the dock, and construction of each is expected to require approximately one week; however, NMFS estimates that construction of all cells will last 15 weeks to account for potential delays or other unforeseen circumstances. NMFS estimates that a minke whale may enter a Level B harassment zone every other week throughout the duration of the construction period. Therefore, given the limited information in the project area to otherwise inform a take estimate, NMFS has authorized eight Level B harassment takes of minke whale.

The largest Level A harassment zone for low-frequency cetaceans extends 8.5 m from the source during vibratory pile driving of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, especially in combination with the already low likelihood of minke whales entering the area, are expected to eliminate the potential for Level A harassment take of minke whale. Therefore, Crowley did not request Level A harassment takes of minke whale, nor has NMFS authorized any.

Beluga Whale

Reports of belugas at Sisualiq Spit, directly across from Kotzebue, include groups of 75-100 individuals, described as moving clockwise into the Sound. Along the west coast of Baldwin peninsula, they have been reported in groups of 200 - 300, culminating in groups of 1,000 or more in Eschscholtz Bay and near the Chamisso Islands (Frost *et al.*, 1983).

Beluga whales from the Beaufort Sea and Eastern Chukchi Sea stocks have the potential to be taken by Level B harassment. NMFS and Crowley initially estimated that 100 beluga whales may be taken, by Level B harassment, on each project day. However, as noted previously, the PRP and the Commission noted that this estimate is likely too high given more recent data (ABWC, 2008). The ABWC (2008) notes that in an aerial survey of Kotzebue Sound in June and July 1987, researchers observed a maximum count of 51 beluga whales. The article notes that in later surveys (1996-98) in Kotzebue Sound, researchers observed fewer than 15 belugas per day, however, the authors state that this may have been partly due to the surveys being conducted too late in the season. Based on the surveys described in ABWC (2008), and as recommended by the Commission, NMFS

has reduced the number of Level B harassment takes of beluga whale. NMFS conservatively estimates that up to 51 beluga whales may be taken by Level B harassment on each project day. Therefore, NMFS has conservatively authorized 4,437 Level B harassment takes of beluga whale (51 beluga whales x 87 estimated in-water work days = 4,437 Level B harassment takes).

The largest Level A harassment zone for mid-frequency cetaceans extends 0.8 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of beluga whale. Therefore, takes of beluga whale by Level A harassment have not been requested, and are not authorized.

Killer Whale

Photo identification of individuals spotted in the southern Chukchi sea during transect surveys (during which at least 37 individuals were spotted six times) identified transient type killer whales. Sightings reported included two sightings of 14 whales each in July, 3 sightings of 18 whales each in August, and one sighting of 5 whales in September, with an average group size of 15 animals (Clarke *et al.*, 2013).

Due to Crowley's project's remote location at the fringes of the known range of the stock, it is unlikely that more than one or two pods would be located in the region during construction. Crowley conservatively estimates, and NMFS agrees, that 15 Gulf of Alaska, Aleutian Islands, and Bering Sea Transient killer whales may be present in the Level B harassment zone on a maximum of 25 percent of project days, given the transient nature of the animals. Therefore, NMFS has authorized Level B harassment take of 15

individuals on 22 project days (25% of total expected days (87 days)) for a total of 330 Level B harassment takes.

The largest Level A harassment zone for mid-frequency cetaceans extends 0.8 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of killer whale. Therefore, takes of killer whale by Level A harassment were not requested, nor has NMFS authorized any.

Harbor Porpoise

The harbor porpoise frequents nearshore waters and coastal embayments throughout their range, including bays, harbors, estuaries, and fjords less than 650 feet (ft) (198 m) deep (NMFS, 2019g). Harbor porpoises have been detected in Kotzebue Sound between September and November and between January and March during acoustic monitoring in 2014 & 2015. Porpoises had not previously been reported under the ice in the Chukchi (Whiting *et al.*, 2019). NMFS was unable to locate a density or group size for Kotzebue Sound, and therefore used the maximum harbor porpoise group size (four animals) from the Distribution and Relative Abundance of Marine Mammals in the Eastern Chukchi and Western Beaufort Seas, 2018 Annual Report (Clarke *et al.*, 2019). Crowley plans to construct 14 cells in the dock, and construction of each is expected to require approximately one week; however, NMFS estimates that construction of all cells will last 15 weeks to account for potential delays or other unforeseen circumstances. NMFS estimates that approximately two groups of four harbor porpoises may be present during each week of construction, and has authorized 120 Level B

harassment takes of harbor porpoise (4 animals in a group x 2 groups per week x 15 weeks = 120 Level B harassment takes).

The largest Level A harassment zone for high-frequency cetaceans extends 12.6 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the small size of the Level A harassment zones, and the associated duration component, is expected to eliminate the potential for Level A harassment take of harbor porpoise. Therefore, Crowley did not request takes of harbor porpoise by Level A harassment, nor has NMFS authorized any.

Bearded Seal

Aerial surveys of ringed and bearded seals in the Eastern Chukchi Sea in May and June reported relatively few bearded seals within inner Kotzebue Sound, as bearded seals typically congregate on offshore ice rather than nearshore. In 1976 aerial surveys of bearded seals in the Bering Sea, densities ranged between 0.006 and 0.782 seals per km². Bearded seals were typically spotted in groups of one to two individuals with occasional larger groupings in denser areas (Braham *et al.*, 1984). Bengtson *et al.*, 2005 includes bearded seal densities calculated from aerial surveys in May and June 1999 and May 2000, however, the density for the project area was zero in both years. However, data shows that at least some bearded seals are nearby from June to September, and could potentially enter the project area (Bengtson *et al.*, 2005, Quakenbush *et al.*, 2019). Therefore, NMFS determined that 0.782 (Braham *et al.*, 1984) is the most appropriate density, considering those available.

Given the known association between ice cover and bearded seal density, NMFS estimates that bearded seal density will be highest in June, and will taper off as the ice melts (Quakenbush *et al.*, 2019). As such, for the proposed authorization, NMFS estimated bearded seal take for the month of June separately from the remainder of the expected project period (July through September). Crowley is now beginning construction in July. Given this delay, the open-water construction season is shorter, and there is a chance that Crowley may need to extend construction into June of 2021. Therefore, NMFS retains the separate calculation for bearded seal take in the month of June in the final authorization.

As noted in the *Detailed Description of Specific Activity* section in the **Federal Register** notice for the proposed IHA (85 FR 23766; April 29, 2020), Crowley will construct the dock upgrade one cell at a time, with construction of each cell requiring approximately one week. In an effort to separate out work that will occur in June, NMFS made several assumptions: (1) NMFS assumes that the best density available is 0.782 (Braham *et al.*, 1984); (2) While there are 14 cells and construction of each is expected to require approximately one week, NMFS estimates that construction of all cells will last 15 weeks to account for potential delays or other unforeseen circumstances; (3) NMFS assumes that each cell will require the same number of each pile type, and therefore the same duration for installation (and removal of template piles), despite known differences in design among some cells; and (4) NMFS assumes that construction will require approximately 87 in-water workdays.

NMFS calculated the assumed days per cell for each activity (Table 7) by considering the proportion of the assumed project days for each activity out of the 87

total project days in comparison to the assumed days per cell out of the expected duration of seven days to complete a cell (see assumption (2), above). (*i.e.* Assumed Project Days/87 days = Assumed Days per Cell/ 7 days). NMFS calculated the Anticipated Days in June by multiplying the Assumed Days per Cell x 4 weeks of June.

NMFS calculated take for each activity during the month of June (Table 7) by multiplying the anticipated days in June x area of Level B harassment zone (km²) x density (0.782km²). Given these assumptions and takes per activity (Table 7), NMFS estimates approximately 961 bearded seal takes in the month of June (sum of Takes per Activity in Table 7).

Table 7 -- NMFS Assumptions for Bearded Seal June Take Estimate

Pile Type	Assumed Project Days	Assumed Days per Cell	Anticipated Days in June	Area of Level B Harassment Zone (km ²)	Take per Activity
Template Piles ^a	37 ^b	3.0	12	32.1	301
Anchor Piles (14-in H-piles)	2	0.2	0.8	32.1	20
Sheet Piles	48	3.9	15.6	52.5	640

^a Conservatively assumes 14-inch H-piles rather than 18-inch pipe piles.

^b Includes installation and removal

During the months of July to September, NMFS expects that the number of bearded seals in the project area will be much lower due to the lack of sea ice. NMFS considered the relative number of ringed and bearded seals locations reported in Quakenbush *et al.*, (2019, Figures 7, 30, and 55), and estimates that approximately twice as many bearded seals (two to four) are likely to occur in the project area than ringed seals (one to two), because tagging studies show that nearly all of the ringed seals spend the summer north of Point Hope (Figures 30 and 55). NMFS estimates that approximately 14 Level B harassment takes of bearded seals takes may occur each week. Given the

assumed 15 weeks of construction, and four assumed weeks of construction in June, NMFS estimates that Crowley will conduct pile driving activities for 11 weeks from July through September. To estimate bearded seal takes during that period, NMFS multiplied the estimated weekly take estimate by the estimated number of weeks of construction, for a total of 154 Level B harassment takes from July to September (14 bearded seals x 11 weeks of construction = 154 Level B harassment takes).

Therefore, throughout the entire project period, NMFS has authorized 1,115 Level B harassment takes of bearded seals (961 estimated takes in June + 154 estimated takes from July to September = 1,115 Level B harassment takes).

The largest Level A harassment zone for phocids extends 5.2m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of bearded seals. Therefore, takes of bearded seal by Level A harassment have not been requested, and are not authorized.

Ringed Seal

Ringed seals are distributed throughout Arctic waters in all “seasonally ice-covered seas.” In winter and early spring when sea ice is at its maximum coverage, they occur in the northern Bering Sea, in Norton and Kotzebue Sounds, and throughout the Chukchi and Beaufort Seas. In years with particularly extensive ice coverage, they may occur as far south as Bristol Bay (Muto *et al.*, 2019). In 1976 aerial surveys of ringed seals in the Bering Sea, densities ranged between 0.005 and 0.017 seals per seals per km² (Braham *et al.*, 1984). Surveys of seals in their breeding grounds in the Sea of Okhotsk in

1964 found densities of 0.1 to 2 seals per km² (CNRC, 1965). Bengtson *et al.*, 2005 includes ringed seal densities calculated from aerial surveys in May and June 1999 and May 2000. Densities for the waters surrounding Kotzebue ranged from 3.82 (2000) to 5.07 (1999).

Given the known association between ice cover and ringed seal density, NMFS estimates that ringed seal density will be highest when the project begins in June, and will taper off as the ice melts (Quakenbush *et al.*, 2019). As such, for the proposed authorization, NMFS estimated ringed seal take for the month of June separately from the remainder of the expected project period (July through September). Crowley is now beginning construction in July. Given this delay, the open-water construction season is shorter, and there is a chance that Crowley may need to extend construction into June of 2021. Therefore, NMFS has still separately calculated ringed seal take for the month of June in the final authorization.

As noted in the **Description of Activity** section, Crowley will construct the dock upgrade one cell at a time, with construction of each cell requiring approximately one week. In an effort to separate out work that will occur in June, NMFS made several assumptions: (1) NMFS assumes that the best density available 5.07 animals/km² (Bengtson *et al.*, 2005); (2) While there are 14 cells and construction of each is expected to require approximately one week, NMFS estimates that construction of all cells will last 15 weeks to account for potential delays or other unforeseen circumstances; (3) NMFS assumes that each cell will require the same number of each pile type, and therefore the same duration for installation (and removal of template piles), despite known differences

in design among some cells; and (4) NMFS assumes that construction will require approximately 87 in-water workdays.

NMFS calculated the assumed days per cell for each activity (Table 8) by considering the proportion of the assumed project days for each activity out of the 87 total project days in comparison to an assumed days per cell out of the expected duration of seven days to complete a cell (see assumption (2), above). (*i.e.* Assumed Project Days/87 days = Assumed Days per Cell/ 7 days). NMFS calculated the Anticipated Days in June by multiplying the Assumed Days per Cell x 4 weeks of June.

NMFS calculated take for each activity during the month of June (Table 8) by multiplying the anticipated days in June x area of Level B harassment zone (km²) x density (5.07/ km²). Given these assumptions (Table 8), NMFS estimates 6,235 ringed seal takes in the month of June (sum of Takes per Activity in Table 8).

Table 8 -- NMFS Assumptions for Ringed Seal June Take Estimate.

Pile Type	Assumed Project Days ^b	Assumed Days per Cell	Anticipated Days in June	Area of Level B Harassment Zone (km ²)	Take per Activity
Template Piles ^a	37 ^b	3.0	12	32.1	1,953
Anchor Piles (14-in H-piles)	2	0.2	0.8	32.1	130
Sheet Piles	48	3.9	15.6	52.5	4,152

^a Conservatively assumes 14-inch H-piles rather than 18-inch pipe piles.

^b Includes installation and removal

During the months of July to September, NMFS expects that the number of ringed seals in the project area will much lower due to the lack of sea ice. NMFS considered the relative number of ringed and bearded seals locations reported in Quakenbush *et al.* (2019, Figures 30, and 55), and estimates that approximately twice as many bearded seals (two to four) are likely to occur in the project area than ringed seals (one to two). NMFS

estimates that approximately seven Level B harassment takes of ringed seals may occur each week. Given the assumed 15 weeks of construction, and four assumed weeks of construction in June, NMFS estimates that Crowley will conduct pile driving activities for 11 weeks from July through September. To estimate ringed seal takes during that period, NMFS multiplied the estimated weekly take estimate by the estimated number of weeks of construction, for a total of 77 Level B harassment takes (7 ringed seals x 11 weeks of construction = 77 Level B harassment takes from July to September).

Therefore, throughout the entire project period, NMFS has authorized 6,312 Level B harassment takes of ringed seals (6,235 estimated takes in June + 77 estimated takes from July to September).

The largest Level A harassment zone for phocids extends 5.2 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of ringed seals. Therefore, takes of ringed seal by Level A harassment have not been requested, and are not authorized.

Spotted Seal

From the late-fall through spring, spotted seals are distributed where sea ice is available for hauling out. From summer through fall, the seasonal sea ice has melted and spotted seals haul out on land (Muto *et al.*, 2019). An estimated 69,000 -101,000 spotted seals from the eastern Bering Sea use the Chukchi Sea during the spring open-water period (Boveng *et al.*, 2017). In 1976 aerial surveys of spotted seals in the Bering Sea, densities ranged between 0.013 and 1.834 seals per km² (Braham *et al.*, 1984).

According to Audubon (2010), spotted seals haul out between June and December in Krusenstern Lagoon, the Noatak River delta, the tip of the Baldwin Peninsula, and Cape Espenberg. Subsistence users report that spotted seals move into the area in July, following fish runs into the Sound and up the Noatak River (NAB, 2016). Spotted seals in the Chamisso Islands were reported in groups of up to 20, but they may reach groups of over 1,000 at Cape Espenberg (Frost *et al.*, 1983).

To calculate estimated Level B harassment takes, Crowley used a density of 1.834 spotted seals/km² (Braham *et al.*, 1984). NMFS was not able to locate information to support a separate take calculation for June from the remainder of the work period, as was done for the other ice seals. Therefore, NMFS calculated Level B harassment takes by multiplying 1.834 spotted seals/km² x the area ensonified above the Level B harassment threshold during each pile driving activity x estimated days of construction for each activity (Table 6) for a total of 6,917 Level B harassment takes. Given that the Braham *et al.*, 1984 density is from the Bering Sea, and Boveng *et al.*, 2017 states that spotted seals from the Bering Sea use the Chukchi Sea during the open water period, NMFS expects that this Bering Sea density provides an appropriate estimate for Kotzebue during the project period. Additionally, the estimated group size of up to 20 individuals at the Chamisso Islands is over 50 km from the project site, and NMFS expects that the count of 1,000 animals at Cape Epsenberg (Frost *et al.*, 1983) is an outlier. Therefore, given the limited information in the project area to otherwise inform a take estimate, NMFS has authorized 6,917 Level B harassment takes of spotted seal.

The largest Level A harassment zone for phocids extends 5.2 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to

implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of spotted seals. Therefore, takes of spotted seal by Level A harassment have not been requested, and are not authorized.

Ribbon Seal

Ribbon seals range from the North Pacific Ocean and Bering Sea into the Chukchi and western Beaufort Seas in Alaska. They occur in the Bering Sea from late March to early May. From May to mid-July the ice recedes, and ribbon seals move further north into the Bering Strait and the southern part of the Chukchi Sea (Muto *et al.*, 2019). An estimated 6,000 - 25,000 ribbon seals from the eastern Bering Sea use the Chukchi Sea during the spring open-water period (Boveng *et al.*, 2017). In 1976 aerial surveys of ribbon seals in the Bering Sea, maximum reported densities were 0.002 seals per seals per km² (Braham *et al.*, 1984). Range mapping of the ribbon seal shows them present in the project vicinity from June to December; however, they typically concentrate further offshore, outside of the Sound (Audubon, 2010).

To calculate estimated Level B harassment takes, Crowley used a density of 0.002 ribbon seals/km² (Braham *et al.*, 1984). NMFS recognizes that this density estimate is from the Bering Sea, but was unable to locate more local or recent data describing frequency of ribbon seal occurrence, group size, or density within the project area. Crowley calculated a Level B harassment take estimate by multiplying 0.002 ribbon seals/km² x the area ensounded above the Level B harassment threshold during each pile driving activity x estimated days of construction for each activity, for a total of eight Level B harassment takes. Given the limited information in the project area to otherwise

inform a take estimate, NMFS has authorized eight Level B harassment takes of ribbon seal.

The largest Level A harassment zone for phocids extends 5.2 m from the source during vibratory installation of the sheet piles (Table 5). Crowley is planning to implement a 10 m shutdown zone during all construction activities, which, given the extremely small size of the Level A harassment zones, is expected to eliminate the potential for Level A harassment take of ribbon seals. Therefore, takes of ribbon seal by Level A harassment have not been requested, and are not authorized.

Table 9 -- Estimated Take by Level B harassment, by Species and Stock.

Common Name	Stock	Level B Harassment Take	Stock Abundance	Percent of Stock
Gray Whale	Eastern North Pacific	15	26,960	.06
Minke Whale	Alaska	8	N/A	N/A
Killer Whale	Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	330	587	56.2
Beluga Whale	Beaufort Sea	4,437	39,258	11.3
	Eastern Chukchi Sea		20,752	21.4
Harbor Porpoise	Bering Sea	120	48,215	0.2
Bearded Seal	Alaska	1,115	N/A	N/A
Ringed Seal	Alaska	6,312	N/A	N/A
Spotted Seal	Alaska	6,917	461,625	1.5

Ribbon Seal	Alaska	8	184,697	0.004
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Potential Effects of Specified Activities on Subsistence Uses of Marine Mammals

The activity may impact the availability of the affected marine mammal stocks or species for subsistence uses. The subsistence uses that may be affected and the potential impacts of the activity on those uses are described below. Measures included in this IHA to reduce the impacts of the activity on subsistence uses are described in the **Mitigation Measures** section. Last, the information from this section and the **Mitigation Measures** section is analyzed to determine whether the necessary findings may be made in the **Unmitigable Adverse Impact Analysis and Determination** section.

Residents of Qikiqtagruq (Kotzebue), Ipnatchiaq (Deering), Nunatchiaq (Buckland), Nuataaq (Noatak), and Nuurvik (Noorvik) harvest marine mammals from Kotzebue Sound during all seasons. Traditional harvests include bowhead and beluga whales and all four seal species discussed in this notice, as well as subsistence fishing. Additionally, a gray whale harvest at Sisualiq Spit was reported to the Alaska Department of Fish & Game (ADF&G) in 1980 (Frost *et al.*, 1983).

Beluga whales are routinely hunted throughout the Sound in spring and summer (NAB, 2016). Traditional hunting grounds for beluga (sisuaq) are directly across from Kotzebue at Sisualiq Spit (Huntington *et al.*, 2016). Recently, regional hunters have reported a significant change in the presence of beluga whales in the Sound. There are no longer sufficient whales to make a traditional, coordinated drive hunt on Sisualiq Spit, and Belugas are no longer common in Eschscholtz Bay, either. Hunters attribute the decrease to a variety of factors, including engine noise (both air and vessel traffic have

increased), lack of coordinated hunts, and killer whale pressure (Huntington *et al.*, 2016b). Impacts from Crowley's project are not expected to reach the traditional beluga harvest grounds.

Bowhead whales are harvested mostly by the residents between Kivalina and Point Hope (NAB, 2016). We do not expect Crowley's project to impact bowhead whales, given that the whales are primarily targeted outside of the Sound, and the project is not expected to impact their prey or migratory behavior.

Bearded and ringed seals are the most commonly harvested seals in the Kotzebue Sound area (Huntington *et al.*, 2016). Bearded seals are the primary focus for Kotzebue Sound hunters in the spring, with harvests occurring near Cape Krusenstern and Goodhope Bay. Hunt effort for bearded seals appears equal in spring and fall (NAB 2016). In thinner ice years, there is less suitable denning habitat for ice seals and more danger for seal hunters to camp out and to approach the seals. Hunters report that there is no longer ice for hunting bearded seals into July, as there was in the 1980s.

Huntington *et al.*, (2016) report that bearded and ringed seals are hunted from ice breakup until the spotted seals arrive and chase them from the area. The NAB (2016) also reported harvest efforts for spotted and ribbon seals in Kotzebue Sound. With the exception of bearded seals, there were limited hunting efforts in the spring (March – May) with nearly twice as much harvest effort in the fall (September – November) and significantly less hunting in summer (June – August).

Ribbon seals have always been infrequent in Kotzebue Sound, but are becoming increasingly more rare (Huntington *et al.*, 2016). They are not harvested for human consumption, but their hides are harvested and meat and blubber used as dog food.

Generally, hunters reported that there is less need for seal hunting than in the past because they are needed less for sled dog feed and sealskin storage containers (Huntington *et al.*, 2016).

Project activities mostly avoid traditional ice seal harvest windows (noted above) and are generally not expected to negatively impact hunting of seals. However, as noted above, some seal hunting does occur throughout the project period. The project could deter target species and their prey from the project area, increasing effort required for a successful hunt. Construction may also disturb beluga whales, potentially causing them to avoid the project area and reducing their availability to subsistence hunters as well. Additionally, Crowley's dock provides essential water access for subsistence harvests, so construction at the dock has the potential to reduce access for subsistence hunters.

Mitigation Measures

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses. NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat, as well as subsistence uses. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned); and

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

Mitigation for Marine Mammals and their Habitat

In addition to the measures described later in this section, Crowley will employ the following mitigation measures:

- Conduct briefings between construction supervisors and crews and the marine mammal monitoring team prior to the start of all pile driving activity and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures;
- For in-water heavy machinery work other than pile driving (*e.g.*, standard barges, *etc.*), if a marine mammal comes within 10 m, operations shall cease and vessels

shall reduce speed to the minimum level required to maintain steerage and safe working conditions. This type of work could include the following activities: (1) Movement of the barge to the pile location; or (2) positioning of the pile on the substrate via a crane (*i.e.*, stabbing the pile);

- For those marine mammals for which Level B harassment take has not been requested, in-water pile installation/removal will shut down immediately if such species are observed within or on a path towards the Level B harassment zone; and
- If take reaches the authorized limit for an authorized species, pile installation will be stopped as these species approach the Level B harassment zone to avoid additional take.

Additionally, Crowley is required to implement all mitigation measures described in the biological opinion.

The following mitigation measures would apply to Crowley's in-water construction activities.

Establishment of Shutdown Zones- Crowley will establish a 10-meter shutdown zone for all construction activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area).

The placement of PSOs during all pile driving and removal activities (described in detail in the **Monitoring and Reporting** section) will ensure that the entire shutdown zone is visible during pile installation. Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (*e.g.*, fog,

heavy rain), pile driving and removal must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

Monitoring for Level B Harassment- Crowley will monitor the Level B harassment zones (areas where sound pressure levels (SPLs) are equal to or exceed the 120 dB rms threshold during vibratory pile driving). Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable observers to be aware of and communicate the presence of marine mammals in the project area outside the shutdown zone and thus prepare for a potential cease of activity should the animal enter the shutdown zone. Placement of PSOs on the shorelines around Kotzebue will allow PSOs to observe marine mammals within the Level B harassment zones. However, due to the large Level B harassment zones (Table 5), PSOs will not be able to effectively observe the entire zone. Therefore, Level B harassment exposures will be recorded and extrapolated based upon the number of observed takes and the percentage of the Level B harassment zone that was not visible.

Pre-activity Monitoring- Prior to the start of daily in-water construction activity, or whenever a break in pile driving/removal of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 15 minutes. If the Level B harassment zone has been observed for 30 minutes and no species for which take is not authorized are present within the zone, work can commence and continue even if visibility becomes impaired within the Level B harassment monitoring zone. When a marine mammal for which Level B harassment take is authorized is present in the Level

B harassment zone, activities may begin and Level B harassment take will be recorded. If the entire Level B harassment zone is not visible at the start of construction, pile driving/removal activities can begin. If work ceases for more than 30 minutes, the pre-activity monitoring of both the Level B harassment zone and shutdown zones will commence.

Mitigation for Subsistence Uses of Marine Mammals or Plan of Cooperation

Regulations at 50 CFR 216.104(a)(12) further require IHA applicants conducting activities that take place in Arctic waters to provide a Plan of Cooperation (POC) or information that identifies what measures have been taken and/or will be taken to minimize adverse effects on the availability of marine mammals for subsistence purposes.

A plan must include the following:

- A statement that the applicant has notified and provided the affected subsistence community with a draft plan of cooperation;
- A schedule for meeting with the affected subsistence communities to discuss proposed activities and to resolve potential conflicts regarding any aspects of either the operation or the plan of cooperation;
- A description of what measures the applicant has taken and/or will take to ensure that proposed activities will not interfere with subsistence whaling or sealing; and
- What plans the applicant has to continue to meet with the affected communities, both prior to and while conducting the activity, to resolve conflicts and to notify the communities of any changes in the operation.

Crowley provided a draft POC to affected parties on November 12, 2019. It includes a description of the project, community outreach that has already been

conducted, and project mitigation measures. Crowley is working on their plan for continuing coordination with subsistence communities throughout the project duration. The POC is a live document and may continue to be updated.

Crowley will coordinate with local subsistence groups to avoid or mitigate impacts to beluga whale harvests. Additionally, project activities avoid traditional ice seal harvest windows, and are not expected to negatively impact hunting of bearded or ringed seals. Crowley will coordinate with local communities and subsistence groups throughout construction to avoid or mitigate impacts to ice seal harvests. Additionally, Crowley will regularly communicate throughout the project by broadcast public radio announcement and periodic activity reports to interested parties via email.

Based on our evaluation of Crowley's proposed measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for subsistence uses.

Monitoring and Reporting

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected

to be present in the action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density).
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas).
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors.
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks.
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat).
- Mitigation and monitoring effectiveness.

Visual Monitoring

Marine mammal monitoring during pile driving and removal must be conducted by NMFS-approved PSOs in a manner consistent with the following:

- Independent PSOs (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods must be used;
- Where a team of three or more PSOs are required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience working as a marine mammal observer during construction;
- Other PSOs may substitute education (degree in biological science or related field) or training for experience. PSOs may also substitute Alaska native traditional knowledge for experience. (NMFS recognizes that PSOs with traditional knowledge may also have prior experience, and therefore be eligible to serve as the lead PSO.); and
- Crowley must submit PSO Curriculum Vitae for approval by NMFS prior to the onset of pile driving.

PSOs must have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and

reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and

- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

Three PSOs will be present during all pile driving/removal activities. One PSO will have an unobstructed view of all water within the shutdown zone, and all three PSOs will observe as much of the Level B harassment zone as possible. One PSO must be stationed on an elevated platform at each of the following locations:

- (1) At or near the site of pile driving;
- (2) Goodwin property (approximately 2 nautical miles northeast of pile driving site); and
- (3) Seawall 'bump-out' in front of the Nullagvik hotel.

Monitoring would be conducted 30 minutes before, during, and 30 minutes after pile driving/removal activities. Observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes. PSOs must also record visibility conditions every 30 minutes based on established on-land reference landmarks.

Additionally, two PSOs are required to monitor for a one-week period before and after pile driving.

Acoustic Monitoring

Crowley intends to conduct a SSV study to confirm the sound source levels, transmission loss coefficient, and size of the Level A and Level B harassment zones. They intend to request a modification to the zones, if appropriate based on the results of the SSV study. Their plan follows accepted methodological standards to achieve their objectives, and is available on NMFS' website at <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>. If NMFS approves the results of the SSV study, we will modify the zone sizes based on the approved data. Additionally, Crowley intends to conduct PAM to record marine mammal vocalizations for 1-2 weeks. Acoustic monitoring report requirements are listed in the Reporting section, below.

Reporting

A draft marine mammal monitoring report will be submitted to NMFS within 90 days after the completion of pile driving and removal activities. The report will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring.
- Construction activities occurring during each daily observation period, including precise start and stop time of each type of construction operation mode, how many and what type of piles were driven or removed and by what method (*i.e.*, impact or vibratory).
- Total number of hours during which each construction activity type occurred.

- Total number of hours that PSOs were on duty during each construction activity, and total number of hours that PSOs were on duty during periods of no construction activity.
- Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state), and number of hours of observation that occurred during various visibility and sea state conditions.
- The number of marine mammals observed, by species, relative to the active construction cell location and if pile driving or removal was occurring at time of sighting.
- Age and sex class, if possible, of all marine mammals observed.
- PSO locations during marine mammal monitoring, including elevation above sea level.
- Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting).
- Description of any marine mammal behavior patterns during observation, including direction of travel and estimated time spent within the Level A and Level B harassment zones while the source was active.
- Number of animals (differentiated by month as appropriate) detected within the monitoring zone, by species and construction activity (including no activity periods as the “undisturbed” condition).
- Estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate).

- Histograms of perpendicular distances to PSO sightings, by species (or species group if sample sizes are small).
- Sighting rates summarized into daily or weekly periods for the before, during, and after construction periods.
- Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any.
- Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals.
- An extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible.

If no comments are received from NMFS within 30 days, the draft report will constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

Crowley must include the following information in their acoustic monitoring report.

- Hydrophone equipment and methods: recording devices, sampling rate, sensitivity of the PAM equipment, locations of the hydrophones, duty cycle, distance (m) from the pile where recordings were made, depth of recording devices, depth of water in area of recording devices.

- Type and size of pile being driven, substrate type, method of driving during recordings.
- Mean, median, and maximum received sound levels: root mean square sound pressure level (SPLrms) in 1-sec segments, peak sound pressure level (SPLpeak), cumulative sound exposure level (SELcum), duration to install each pile.
- Duration per pile measured, one-third octave band spectrum, power spectral density plot.
- Estimated source levels referenced to 10 m, transmission loss coefficients, and estimated Level A and Level B harassment isopleths.
- Number of acoustic detections, by species and operation mode (including no activity periods as the “undisturbed” condition).

Crowley must also submit acoustic recordings and necessary metadata associated with passive acoustic monitoring for marine mammals within one month of monitoring.

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the IHA-holder shall report the incident to the Office of Protected Resources (OPR) (301-427-8401), NMFS and to the Alaska Statewide 24-Hour Stranding Hotline (877-925-7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the IHA-holder must immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the IHA. The IHA-holder must not resume their activities until notified by NMFS.

The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Monitoring Plan Peer Review

The MMPA requires that monitoring plans be independently peer reviewed where the proposed activity may affect the availability of a species or stock for taking for subsistence uses (16 U.S.C. 1371(a)(5)(D)(ii)(III)). Regarding this requirement, NMFS' implementing regulations state that upon receipt of a complete monitoring plan, and at its discretion, NMFS will either submit the plan to members of a peer review panel for review or within 60 days of receipt of the proposed monitoring plan, schedule a workshop to review the plan (50 CFR 216.108(d)).

NMFS established an independent PRP to review Crowley's Monitoring Plan for the proposed project in Kotzebue. NMFS provided Crowley's monitoring plan to the PRP and asked them to answer the following questions:

1. Will the applicant's stated objectives effectively further the understanding of the impacts of their activities on marine mammals and otherwise accomplish the goals stated below? If not, how should the objectives be modified to better accomplish the goals below?

2. Can the applicant achieve the stated objectives based on the methods described in the plan?
3. Are there technical modifications to the proposed monitoring techniques and methodologies proposed by the applicant that should be considered to better accomplish the objectives?
4. Are there techniques not proposed by the applicant (*i.e.*, additional monitoring techniques or methodologies) that should be considered for inclusion in the applicant's monitoring program to better accomplish the objectives?
5. What is the best way for an applicant to present their data and results (formatting, metrics, graphics, etc.) in the required reports that are to be submitted to NMFS (*i.e.*, 90-day report and comprehensive report)?

The PRP met in March 2020 and subsequently provided a final report to NMFS containing recommendations that the panel members felt were applicable to Crowley's monitoring plan. The panel concluded that the objectives are appropriate, however, they provided some recommendations to improve Crowley's ability to achieve their stated objectives. The PRP's primary recommendations and comments are summarized and addressed below. The PRP's full report is available on our website at

<https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>.

The PRP recommended that PSOs focus on scanning the shoreline and water, alternately with visual scans and using binoculars, to detect as many animals as possible instead of following individual animals to collect detailed behavioral information. NMFS requires PSOs to document and report the behavior of marine mammals observed within

the Level A and Level B harassment zones. While NMFS agrees that PSOs should not document behavior at the expense of detecting other marine mammals, particularly within the shutdown zone (10 m for all activities), we are still asking PSOs to record behaviors and to estimate of the amount of time that an animal spends in the harassment zone, which is important to help understand the likelihood of incurring PTS (given the duration component of the thresholds) and the likely severity of behavioral disturbance.

The PRP recommended that the PSOs record visibility conditions at regular intervals (*e.g.*, every 5 minutes) and as they change throughout the day. The panel recommended using either laser range finders or a series of “landmarks” at varying distances from each observer. The PRP notes that if Crowley uses landmarks, Crowley could measure the distance to the landmarks on the ground before pile driving or removal begins, and reference these landmarks throughout the season to record visibility. The landmarks could be buildings, signs, or other stationary objects on land that are located at increasing distances from each observation platform. PSOs should record visibility according to the farthest landmark the laser range finder can detect or that the PSO can clearly see. NMFS will require Crowley to record visibility conditions throughout construction; however, NMFS will require PSOs to record visibility every 30 minutes, rather than every 5 minutes, in an effort to minimize distraction from observing marine mammals. PSOs will be equipped with range finders, and will establish reference landmarks on land.

The PRP recommended that Crowley have a designated person on site keeping an activity log that includes the precise start and stop dates and times of each type of

construction operation mode. Crowley's PSOs will record this information during construction.

The PRP expressed concern about the limited effective visual detection range of the PSOs in comparison with the estimated size of the Level B harassment zones, including Crowley's ability to estimate actual Level B harassment takes. The panel recommended that Crowley implement real-time PAM to verify the Level B harassment zone sizes, and to improve detection of marine mammals in the Level B harassment zones where visual detection probability is limited or not possible. The panel recommended that Crowley begin PAM 2 to 3 weeks prior to the start of construction and continue through 2 to 3 weeks after construction activities conclude for the season. They recommended archival bottom mounted recorders as an alternative to real-time PAM, but noted that these setups are not as easy to relocate and that data can only be accessed after recovery.

In a related comment, the panel recommended that Crowley report total estimated Level B harassment takes using two methods. First, the panel recommended that Crowley assume that animal density is uniform throughout the Level B harassment zone and use distance sampling methods, such as Burt *et al.*, 2014, using only the shore-based PSO observations to estimate actual Level B harassment takes. Second, the PRP recommended that Crowley also use real-time PAM to estimate Level B harassment takes only in the far field, assuming that each acoustic marine mammal detection that occurs during pile driving or removal is a Level B harassment take.

NMFS is not requiring Crowley to report Level B harassment takes using distance sampling methods, as NMFS does not believe that it is appropriate to apply precise

distance sampling methods intended for systematic surveys to estimating take numbers in this situation. As noted by the panel, the assumption of uniform density throughout the Level A and Level B harassment zone is likely violated in this instance, and the pile driving and removal activities are likely to further affect the distribution within the zones. Therefore, NMFS is requiring Crowley to include an extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible in their final report.

NMFS is requiring Crowley to conduct SSV to verify the size of the Level A and Level B harassment zones based on an approved monitoring plan. If NMFS approves the results of the SSV study, we will update the size of Level A and Level B harassment zones (and shutdown zone, if necessary to avoid unauthorized taking by Level A harassment) accordingly, and require Crowley to report estimated total Level B harassment take in consideration of these zone sizes. The SSV data will be gathered using a dip hydrophone from a boat during the period in which the bottom-mounted hydrophone is deployed for marine mammal detections (see below, approximately 1-2 weeks). Please refer to Crowley's acoustic monitoring plan for additional details.

NMFS is not requiring Crowley to implement real-time PAM for the purpose of detecting marine mammals. NMFS notes that real-time PAM would be helpful if there were a necessity to take an action, such as shutting down operations at the time that a detection occurs. However, in this instance, visual monitoring by PSOs can adequately prevent Level A harassment take given the very small size of the Level A harassment zones (<14 m for all activities).

Crowley is required to conduct archival PAM for marine mammals according to an approved acoustic monitoring plan. Crowley will deploy one hydrophone to monitor for marine mammals. This hydrophone will be placed approximately 2,000-2,500 m from the project site (see Crowley's acoustic monitoring plan for additional details). We expect that the SSV will likely show that the actual Level B harassment zones are smaller than those included in this authorization (due to the conservative assumptions regarding propagation used in the current analysis). Therefore, given the expected reduction in Level B harassment zone size, and the maximum distances at which we expect Crowley will be able to acoustically detect marine mammals (see PRP report), we expect that placing the hydrophone at this distance will ensure confidence that detected marine mammals are within the Level B harassment zone at the time they are detected. Additionally, we expect that the hydrophone will detect pile driving activity at this distance without masking marine mammal detections, therefore allowing the data analyst to confirm whether pile driving was occurring during the time at which the marine mammal was acoustically detected. Given the small scale of Crowley's project and the associated equipment and personnel costs, NMFS is requiring Crowley to implement PAM for marine mammals for 1-2 weeks, rather than throughout the entire duration of the project period.

Crowley will submit the raw data from the archival PAM receiver to NMFS within one month after completion of the monitoring period. NMFS will assist with the data analysis, and Crowley is required to include the results of the PAM for marine mammals in their final report. Crowley is also required to include results of the SSV analysis in their final report. The SSV results, if approved, will allow Crowley to better-

define the size of the Level B harassment zones, which will allow Crowley to extrapolate observed Level B harassment takes across more accurate zone sizes than the zones estimated using practical spreading.

The PRP also recommended that PSO observations begin 2-3 weeks prior to construction, continue through the construction season (including days on which construction does not occur), and continue for 2-3 weeks after the construction season ends. NMFS will require two PSOs to begin observations one week prior to the start of pile driving, and continue observing through one week after the pile driving season is complete, rather than 2-3 weeks. Crowley is unable to amend their PSO contract to require monitoring on days on which construction is not occurring.

The PRP recommended that Crowley station PSOs on elevated platforms to increase sighting distance. The PRP also recommended that Crowley relocate PSO #3 to the vicinity of the Nullagvik Hotel in order to eliminate the gap in PSO coverage between Observers #1 and #3 that would result from the PSO stations in the proposed plan due to the shoreline configuration. The panel recommended that Crowley station the PSO on the hotel roof, if possible. NMFS agrees that, given the shoreline configuration, PSO #3 should be stationed further north, and that PSOs should be stationed on elevated structures to increase visible distance. Crowley was unable to secure permission to station PSO #3 on top of the hotel. Instead, PSO #3 will be stationed on a raised platform on the seawall 'bump-out' in front of the hotel. NMFS is requiring Crowley to provide elevated monitoring locations for all PSOs.

The PRP made several suggested changes to Crowley's proposed PSO data sheets and associated codes included in Appendix B of Crowley's draft Marine Mammal

Monitoring and Mitigation Plan. Crowley has since requested for their PSO contractor use their own data sheets. NMFS has approved their use, as the PSOs are familiar with this data sheet format, and we expect that using familiar data sheets will help facilitate effective monitoring. The panel recommended that Crowley's data sheet include categories distinguishing between "other otariid," "other phocid," "other baleen whale," "other large cetacean," and "other small cetacean," include 0-1, 1-2, 2-3, >3 ft as the wave height categories (assuming significant lack of sighting ability with wave heights >3 ft), and distinguish between vibratory installation and removal. The PSO contractor's data sheets include these recommendations. NMFS is not requiring removal of codes that do not apply to this project (such as drilling). The PRP's remaining data sheet recommendations were specific corrections to Crowley's proposed data sheet (such as missing codes), and therefore do not apply to the PSO contractor's data sheet.

The PRP also made recommendations regarding how Crowley should present their monitoring data and results. Please refer to part V of the PRP report for those suggestions. Crowley will implement the reporting recommendations that do not require PAM for marine mammals.

The PRP recommended that Crowley use bubble curtains during construction and included several comments regarding the take estimate section of the IHA application. The panel acknowledged in the report that the take estimate is beyond the scope of the peer review process. We have considered the bubble curtain and take estimate recommendations as public comments. Please see the **Comments and Responses** section for additional information.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS’s implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, the majority of our analyses apply to all of the species listed in Table 9, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks in anticipated individual responses to activities, impact of expected take on the population due to differences in population status or impacts on habitat, they are described independently in the analysis below.

Pile driving and removal activities associated with the project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level B harassment, from underwater sounds generated from pile driving and removal. Potential takes could occur if individuals of these species are present in zones ensounded above the thresholds for Level B harassment, identified above, when these activities are underway.

The takes from Level B harassment would be due to potential behavioral disturbance and TTS. No mortality or serious injury is anticipated given the nature of the activity, and no Level A harassment is anticipated due to Crowley's construction method. We expect that Crowley's planned mitigation measures will further reduce the potential for Level A harassment take (see **Mitigation Measures** section).

Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.*, Thorson and Reyff 2006; HDR, Inc. 2012; Lerma 2014; ABR 2016). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving and removal, although even this reaction has been observed primarily only in association with impact pile driving, which Crowley does not plan to conduct. Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. If sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring, particularly as the project is expected to occur over just 87 in-water work days, with an

estimated 100 minutes of pile driving per work day over a period of approximately 11 hours.

The project is also not expected to have significant adverse effects on affected marine mammals' habitats. The project activities would not modify existing marine mammal habitat for a significant amount of time. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range. We do not expect pile driving activities to have significant consequences to marine invertebrate populations. Given the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat, including fish and invertebrates, are not expected to cause significant or long-term negative consequences.

As previously noted, the NAB subsistence mapping project identified Kotzebue Sound as an important use area for beluga feeding, birthing, rearing, and migration (Figure 8 in Crowley's application, originally from NAB, 2016). While the locations identified as important birthing areas do not overlap with calculated Level B harassment zone, the feeding, rearing, and migration important areas directly overlap with the Level B harassment zone. The area of the feeding, rearing, and migration important use areas in which impacts of Crowley's project may occur is small relative to both the overall area of the important use areas and the overall area of suitable beluga whale habitat outside of these important use areas. The area of Kotzebue Sound affected is also small relative to the rest of the Sound, such that it allows animals within the migratory corridor to still utilize Kotzebue Sound without necessarily being disturbed by the construction. Therefore, take of beluga whales using the feeding, rearing, and migratory important use

areas, given both the scope and nature of the anticipated impacts of pile driving exposure, is not expected to impact reproduction or survivorship of any individuals.

The NAB (2016) subsistence mapping project also identified Kotzebue Sound as an important use area for bearded seal feeding and migration (Figure 5 in Crowley's application). The area of the feeding and migratory important use areas in which impacts of Crowley's project may occur is small relative to both the overall area of the important use areas and the overall area of suitable bearded seal habitat outside of these important use areas. The area of Kotzebue Sound affected is also small relative to the rest of the Sound, such that it allows animals within the migratory corridor to still utilize Kotzebue Sound without necessarily being disturbed by the construction. Additionally, as previously described, we expect that most bearded seals will have left the area during the project period. Therefore, take of bearded seal using the feeding and migratory important use areas, given both the scope and nature of the anticipated impacts of pile driving exposure, is not expected to impact reproduction or survivorship of any individuals.

The NAB (2016) subsistence mapping project also identified Kotzebue Sound as an important use area for ringed seal feeding, including a high density feeding area south of the project area (Figure 6 in Crowley's application). The area identified as important for high density feeding does not overlap with the calculated Level B harassment zone. The area of the feeding important use areas in which impacts of Crowley's project may occur is small relative to both the overall area of the important use areas and the overall area of suitable ringed seal habitat outside of these important use areas. Additionally, as previously described, NMFS expects that most ringed seals will have left the area during the project period. Therefore, take of ringed seal using the feeding and migratory

important use areas, given both the scope and nature of the anticipated impacts of pile driving exposure, is not expected to impact reproduction or survivorship of any individuals.

Additionally, the NAB subsistence mapping project identified Kotzebue Sound as an important use area for spotted seal feeding, birthing, rearing, and migration, as well as important haulouts (Figure 9 in Crowley's application, originally from NAB, 2016).

While the locations identified as important birthing areas do not overlap with calculated Level B harassment zone, the feeding, rearing, and migration important use areas directly overlap with the Level B harassment zone, and one key haulout is adjacent to the Level B harassment zone. However, the area of the feeding (including high density feeding), rearing, and migration important use areas in which impacts of Crowley's project may occur is small relative to both the overall area of the important use area and the overall area of suitable spotted seal habitat outside of these important use areas. The area of Kotzebue Sound affected is also small relative to the rest of the Sound, such that it allows animals within the migratory corridor to still utilize Kotzebue Sound without necessarily being disturbed by the construction. Therefore, take of spotted seals using the feeding and migratory important use areas and important haul outs, given both the scope and nature of the anticipated impacts of pile driving exposure, is not expected to impact reproduction or survivorship of any individuals.

As described in the **Federal Register** notice for the proposed authorization (85 FR 23766; April 29, 2020), unusual mortality events (UMEs) have been declared for both gray whales and ice seals, however, neither UME provides cause for concern regarding population-level impacts to any of these stocks. For gray whales, the estimated

abundance of the Eastern North Pacific stock is 26,960 (Carretta *et al.*, 2019) and the stock abundance has increased approximately 22 percent in comparison with 2010/2011 population levels (Durban *et al.*, 2017). For bearded seals, the minimum estimated mean M/SI (557) is well below the calculated partial PBR (8,210). This PBR is only a portion of that of the entire stock, as it does not include bearded seals that overwinter and breed in the Beaufort or Chukchi Seas (Muto *et al.*, 2019). For the Alaska stock of ringed seals and the Alaska stock of spotted seals, the M/SI (863 and 329, respectively) is well below the PBR for each stock (5,100 and 12,697, respectively) (Muto *et al.*, 2019). No injury, serious injury, or mortality is expected or authorized, and Level B harassment takes of gray whale and ice seal species will be reduced to the level of least practicable adverse impact through the incorporation of the required mitigation measures. As such, the authorized Level B harassment takes of gray whales and ice seals would not exacerbate or compound upon the ongoing UMEs.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality or serious injury or PTS is anticipated or authorized;
- The anticipated incidents of Level B harassment would consist of, at worst, temporary modifications in behavior that would not result in fitness impacts to individuals;
- The area impacted by the specified activity is very small relative to the overall habitat ranges of all species; and

- While impacts would occur within areas that are important for feeding, birthing, rearing, and migration for multiple stocks, because of the small footprint of the activity relative to the area of these important use areas, and the scope and nature of the anticipated impacts of pile driving exposure, we do not expect impacts to the reproduction or survival of any individuals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the required monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under Sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

For the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock of killer whales, the estimated instances of take appear high when compared to the stock abundance (Table 9). However, when other qualitative factors are used to inform an

assessment of the likely number of individual marine mammals taken, the resulting numbers are considered small. This is discussed further below. For all other species and stocks, our analysis shows that less than one-third of the best available population abundance estimate of each stock could be taken by harassment. The number of animals authorized to be taken for the Eastern North Pacific gray whale stock, Alaska minke whale stock, Beaufort Sea and Eastern Chuckchi Sea beluga whale stocks, Bering Sea harbor porpoise stock, and Alaska stocks of bearded, ringed, spotted and ribbon seals stocks discussed above would be considered small relative to the relevant stock's abundances even if each estimated taking occurred to a new individual, which is an unlikely scenario.

For beluga whale, the percentages in Table 9 also conservatively assume that all takes of beluga whale will be accrued to a single stock, when multiple stocks are known to occur in the project area. Additionally, we expect that most beluga whale takes will be of the same individuals, given that the calculated Level B harassment zone is an extremely small portion of each stock's overall range (Muto *et al.*, 2019a) and, therefore, the percentage of the stock taken is expected to be lower than that indicated in Table 9.

A lack of an accepted stock abundance value for the Alaska stock of minke whale did not allow for the calculation of an expected percentage of the population that would be affected. The most relevant estimate of partial stock abundance is 1,232 minke whales in coastal waters of the Alaska Peninsula and Aleutian Islands (Zerbini *et al.*, 2006). Given seven takes by Level B harassment for the stock, comparison to the best estimate of stock abundance shows less than 1 percent of the stock is expected to be impacted.

For the Alaska stock of bearded seals, a lack of an accepted stock abundance value did not allow for the calculation of an expected percentage of the population that would be affected. As noted in the 2019 Draft Alaska SAR (Muto *et al.*, 2019), an abundance estimate is currently only available for the portion of bearded seals in the Bering Sea (Conn *et al.*, 2012). The current abundance estimate for the Bering Sea is 301,836 bearded seals. Given the authorized 1,115 Level B harassment takes for the stock, comparison to the Bering Sea estimate, which is only a portion of the Alaska Stock (also includes animals in the Chukchi and Beaufort Seas), shows less than, at most, less than one percent of the stock is expected to be impacted.

The Alaska stock of ringed seals also lack an accepted stock abundance value, and therefore, we were not able to calculate an expected percentage of the population that may be affected by Crowley's project. As noted in the 2019 Draft Alaska SAR (Muto *et al.*, 2019), the abundance estimate available, 171,418 animals, is only a partial estimate of the Bering Sea portion of the population (Conn *et al.*, 2014). As noted in the SAR, this estimate does not include animals in the shorefast ice zone, and the authors did not account for availability bias. Muto *et al.* (2019) expect that the Bering Sea portion of the population is actually much higher. Given the authorized 6,312 Level B harassment takes for the stock, comparison to the Bering Sea partial estimate, which is only a portion of the Alaska Stock (also includes animals in the Chukchi and Beaufort Seas), shows less than, at most, less than 4 percent of the stock is expected to be impacted.

The expected take of the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock of killer whales, as a proportion of the population abundance, would be 58.8 percent if all takes were assumed to occur for unique individuals. However, it is

unlikely that all takes would occur to unique individuals. The stock's SAR shows a distribution that does not extend north beyond the Bering Sea. Therefore, we expect that the individuals in the project area represent a small portion of the stock, and that it is likely that there will be multiple takes of a small number of individuals within the project area. As such, it is highly unlikely that more than one-third of the stock would be exposed to the construction noise.

Based on the analysis contained herein of the activity (including the required mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity will not have an "unmitigable adverse impact" on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined "unmitigable adverse impact" in 50 CFR 216.103 as an impact resulting from the specified activity: (1) That is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (i) Causing the marine mammals to abandon or avoid hunting areas; (ii) Directly displacing subsistence users; or (iii) Placing physical barriers between the marine mammals and the subsistence hunters; and (2) That cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

Bowhead whale are primarily targeted outside of the Sound, and the project is not expected to impact any prey species or migratory behavior. Beluga whales have been

traditionally harvested in abundance at Sisualiq, and project impacts are not expected to reach traditional harvest areas. Additionally, project activities avoid traditional ice seal harvest windows, as the majority of hunting occurs in the Fall and Spring. While some hunting continues throughout the summer, we do not anticipate that there would be impacts to seals that would make them unavailable for subsistence hunters. Additionally, ramps in the seawall along Shore Avenue can provide boat access while Crowley's dock is under construction.

Crowley will coordinate with local communities and subsistence groups to avoid or mitigate impacts to beluga whale and ice seal harvests, as noted in the **Mitigation Measures** section. Crowley will also regularly communicate throughout the project by broadcast public radio announcement and periodic activity reports to interested parties via email.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the required mitigation and monitoring measures, NMFS has determined that there will not be an unmitigable adverse impact on subsistence uses from Crowley's activities.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults

internally whenever we propose to authorize take for endangered or threatened species, in this case with the Alaska Regional Office.

Two marine mammal species, bearded seal (Beringia distinct population segment (DPS)) and ringed seal (Arctic subspecies), occur in the project area and are listed as threatened under the ESA. The NMFS Alaska Regional Office issued a Biological Opinion under section 7 of the ESA, on the issuance of an IHA to Crowley Fuels under section 101(a)(5)(D) of the MMPA by the NMFS Office of Protected Resources. The Biological Opinion concluded that the action is not likely to jeopardize the continued existence of either species.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS must evaluate our proposed action (*i.e.*, the promulgation of regulations and subsequent issuance of incidental take authorization) and alternatives with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in Categorical Exclusion B4 of the Companion Manual for NAO 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that our action qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to Crowley Fuels, LLC for the potential harassment of small numbers of nine marine mammal species incidental to Crowley Kotzebue Dock Upgrade in Kotzebue, Alaska, provided the previously mentioned mitigation, monitoring and reporting requirements are followed.

Dated: July 1, 2020.

Donna S. Wieting,
Director, Office of Protected Resources,
National Marine Fisheries Service.

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